PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s)	Keung, J.K.	Examiner:	Hai Vo
Serial No.:	09/666,928	Group Art Unit:	6748
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Filed:	September 21, 2000	Dated:	February 24, 2003
For:	HEAT-SEALABLE MULTI-LAYER WHITE OPAQUE FILM		

Commissioner for Patents
Washington, DC 20231

DECLARATION UNDER 37 CFR 1.132

Sir;

I, Robert A. Migliorini do hereby declare and state:

1. I am one of the inventors named in the above captioned patent application.

2. I have a bachelors degree in Chemical Engineering from Tufts University and a masters degree in Materials Engineering and a Masters in Business Administration degree from Rochester Institute of Technology. Also, I have taken a number of courses relating to thermoplastic film technology.

3. I have worked in the Films Division of ExxonMobil Chemical Corporation (formerly Mobil Oil Corporation) for more than fifteen (15) years and have held a variety of positions in the research and development and manufacturing groups. For the past three (3) years, I have worked in the manufacturing group and my current title is Plant Manager.

4. I have extensive knowledge in the development and manufacture of thermoplastic films and the polymeric materials and additives that are used to form such films.

5. The 278WOS-2 film is shown and described in the ExxonMobil Product Characteristics Manual, 4th Edition, published in 2000, copies of the relevant pages of which are attached hereto as Exhibit 1. The 278WOS-2 film is currently being marketed by ExxonMobil Chemical Company and is encompassed by the claims of the above-captioned patent application.

6. The 278WOS-2 film identified in Exhibit 1 has a total polymer thickness of about 1 mil and includes five layers in accordance with Claim 13 of the above-referenced patent application as currently pending. The five layers are listed as (i) - (v) as follows:

i) a cavitated core layer comprising polypropylene homopolymer of high stereo-regularity and a cavitating agent comprising polybutylene terephthalate, said core layer having a first and a second surface;

ii) a top tie layer comprising polypropylene and TiO_2, said top tie layer being positioned adjacent to said first surface of the core layer;

iii) a top skin layer comprising polypropylene, SiO_2 and methyl acrylate antiblock agent; said top skin layer being positioned adjacent to said top tie layer;

iv) a bottom tie layer comprising polypropylene, said bottom tie layer being positioned adjacent to said second surface of the core layer; and

v) a bottom skin layer comprising an ethylene-propylene-butylene terpolymer, further comprises SiO_2, silicone oil antiblock, and crosslinked silicone slip agent; said bottom skin layer being positioned adjacent to said bottom tie layer.

Furthermore, in compliance with the requirements of claim 13, the 278WOS film does not exhibit creep in a Hayssen Vertical Fill, Form and Seal (VFFS) hot tack test at 280-310°F; and wherein the film seals with a minimum of applied heat and pressure.

7. A series of measurements taken on a commercial batch of the 278WOS2 film for quality control purposes yielded the data shown in Table 1 below:

TABLE 1

PROPERTY	COUNT	MINIMUM	MAXIMUM	S.D.	AVERAGE
AVG. GAUGE	14	1.072	1.106	0.012	1.091
DIM STAB MD	20	-6.0	-4.7	0.44	-5.4
DIM STAB TD	20	-7.3	-5.7	0.56	-6.5
MST 200G U/U	227	165	180	2.2	169.3

DIM STAB: Dimensional stability (shrinkage) percent; Shrinkage is the difference in sample length before and after heating unrestrained sample at 135°C for 7 min. MST 200G U/U: Minimum seal temperature (°F) with opposed untreated surfaces sealed.

8. Table 1 shows that the 278WOS2 film (that fulfills all the requirements of pending claim 13 of the above-captioned application), has an average dimensional stability in the machine direction (DIM STAB MD) of -5.4 percent; and an average dimensional stability in the transverse direction (DIM STAB TD) of -6.5 percent. The 278WOS2 film thus exhibits a low shrinkage of about 5.4% in the machine direction and about 6.5% in the transverse direction.

9. The WOW film product of pending claim 17 differs from the films of claim 13 only in the composition of the polyolefin of the top skin layer. The films of claim 13 have a top skin layer of polypropylene, whereas the films of claim 17 have a top skin layer of ethylene-propylene-butylene terpolymer. The films of claim 17 have similar dimensional stability properties to the films of claim 13, exemplified by 278WOS2 described above.

10. U.S. Patent 5,691,043 (the '043 patent) to Keller and Nothnagle discloses a uniaxially heat-shrinkable, biaxially oriented, multilayer film having a polypropylene core layer containing isotactic polypropylene and a modifier which reduces the crystallinity of the polypropylene by increasing the chain imperfections or reducing isotacticity of the polypropylene core (See '043 patent abstract).

11. Neither the film of claim 13 as exemplified by 278WOS2, nor the film of claim 17 exemplified by WOW include a modifier which reduces the crystallinity of the polypropylene by increasing the chain imperfections or reducing isotacticity of the polypropylene core as required by the '043 patent.

12. By contrast, the '043 patent discloses at column 4, lines 42-47 that: "The composition of the polypropylene-containing core layer of the multilayer film of the present invention must provide sufficient operability so that the film after biaxial orientation exhibits crystallinity which is low enough to permit the secondary orientation of the film, which imparts the uniaxial shrinkability to the film, without tearing." (Emphasis added).

13. The '043 patent further discloses at column 10 under the heading "Dimensional Stability" that the resulting uniaxially shrinkable film after secondary orientation exhibits at temperatures of 100° to 145°C, say 135°C, greater than 15%, preferably greater than 18%, 20%, or even greater than 25% shrinkage in the direction of secondary orientation, e.g., machine direction. Shrinkage is determined by measuring the difference of sample length before and after placing the sample, unrestrained, in a 135°C oven for 7 minutes.

14. The '043 patent does not disclose or suggest, or even hint at low shrinkability films of dimensional stability of about -5.4% in the machine direction and about -6.5% in the transverse direction.

15. In summary, the films of the present invention are clearly distinct from the uniaxially shrinkable films having a polypropylene core layer including a modifier modifier which reduces the crystallinity of the polypropylene as specified by the '043 patent. Further, the disclosure of the '043 patent would not have led one of ordinary skill in the art to the presently claimed invention of heat-sealable multilayer films with low shrinkability in both the machine direction and the transverse direction.

I hereby declare that all statements made herein are of my own knowledge and are true, and that all statements made on information and belief are believed to be true; and further that the statements have been made with the knowledge that wilful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code and that such wilful false statements may jeopardize the validity of any patent issuing on the present invention.

Dated: 2/24/03

Robert A. Migliorini

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